SAT

SCORE IMPROVEMENT SYSTEM

Geometry

PREPARE NOW!

BY ARROW INSTRUCTIONAL SYSTEMS, INC.

HAYDEN SOFTWARE

SAT Score Improvement System

Geometry Module: User's Guide

By Arrow Instructional Systems, Inc.
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INTRODUCTION

Welcome to the GEOMETRY MODULE of the HAYDEN SAT SCORE IMPROVEMENT SYSTEM, one of six modules designed to help you raise your SAT scores. This Geometry Module is an effective tool to begin your preparation for the Mathematical section of the Scholastic Aptitude Tests. The system is easy to operate so that you can concentrate on its content. All of the information you need to complete examples or answer test questions appears on screen, as do instructions for moving from one part of the program to another. More detailed explanations follow in this manual. You can also read the instructions on screen by selecting the System User's Guide option after you load the program.

This GEOMETRY MODULE provides instruction and practice in solving the entire range of geometry problems found on the SAT. All figures needed to solve the problems are illustrated on the screen.

This module includes eleven parts in addition to the User's Guide:

- Complimentary and Supplementary Angles and Angle Sums
- Parallel Lines
- Angles of a Circle
- Equalities of Angles and Sides
- Pythagorean Theorem
- Special Triangles
- Perimeters
- Areas
- Similar Figures
- Volumes
- All Examples Without Tutormode

In addition, this manual contains an ANALYSIS OF THE SAT which gives you insight into the workings of the actual exam — its organization and scoring, plus test-taking strategies and tips for raising your scores.

Other elements in the Mathematical section of the SAT are Algebra, and Quantitative Comparisons and Word Problems; two separate modules covering these topics are available.

This module contains a two-sided disk: a Program Disk side and a Review Disk side. Always load the Program Disk side first. Instructions on the screen will prompt you to insert the other side at the appropriate time.

1. USING THE HAYDEN SYSTEM

Menus

After you have loaded the Hayden SAT Score Improvement System Program Disk side into your computer's memory (see the loading instructions card) you will see the MAIN MENU:

MAIN MENU

A. System User's Guide
B. Complimentary and Supplementary Angles and Angle Sums
C. Parallel Lines
D. Angles of a Circle
E. Equalities of Angles and Sides
F. Pythagorean Theorem
G. Special Triangles
H. Perimeters
I. Areas
J. Similar Figures
K. Volumes
L. All Examples Without Tutormode

The MAIN MENU lets you move easily from one section of the program to another. Simply press the key corresponding to the letter next to the section you wish to see.

The first ten topics on the Main Menu combine two key aspects of the Hayden System: Definitions, Analysis and Strategies and Examples With Tutormode. First, **Definitions** provides the background information you will need to tackle the selected topic on the SAT and demonstrates problem-solving methods, including valuable tricks and shortcuts.

Second, **Tutormode** gives you a detailed, step-by-step explanation of how to arrive at the correct answer. By reviewing and practicing, you develop more efficient problem-solving techniques.

The **All Examples Without Tutormode** option provides quick drill and practice in all the problem types so that you can improve speed and accuracy. If you answer incorrectly, you are shown the correct answer, but no detailed explanation is provided. At the end of the section, the computer tallies the number of questions answered correctly and incorrectly, providing an indication of how well you have mastered the material.

When you make a selection from the Main Menu, the system starts presenting the material or asks for the other side of the disk to be loaded into the drive.

Function Keys

A function key is a key which has a specific effect on the program's operation each time it is pressed.

Whenever a menu is on your screen the following function keys are operational: M (Main Menu) and Q (Quit). Pressing "M" always brings you back to the Main Menu. Pressing "Q" causes the computer to ask if you really want to quit. Answering "Y" ends the program. If you answer "N", you may continue where you left off.

While text (either instructions or review material) is on the screen, pressing "R" restarts the section (erasing any previous answers you may have entered), pressing "M" takes you to the last menu displayed and pressing "Q" enables you to quit.

The left-arrow key lets you page backwards through the text one screen at a time until the first screen of the section is reached. When a question appears on the screen, your previous answer, if any, is shown. You can replace that answer by entering another one, or you can leave your answer undisturbed by pressing the left-arrow again.

Pressing the letter "O" leaves the current question temporarily unanswered and displays the next question. At the end of the section you have a chance to review all the unanswered questions.

2. ORGANIZATION OF THE HAYDEN SYSTEM

The Hayden SAT Score Improvement System is organized into six modules. It includes both simulated SAT exams and complete reviews of each subject covered by the Verbal and Mathematical sections of the SAT. In addition to this Geometry Module, the following five modules are available:

1. Sample SAT Tests

The Sample SAT Tests Module contains an on-screen version of the Analysis of the SAT found in this manual, plus a Pre-Test and two Sample SAT's, as described below.

The Pre-Test is a diagnostic-prescriptive tool for determining your strengths and weaknesses in the Mathematical and Verbal sections of the SAT. It is a two-hour test consisting of the same mix of Math and Verbal questions as an actual SAT. After you complete the test your computer will provide scores in each of the sixteen subjects which contribute to your Math and Verbal scores. This profile of your performance indicates which additional modules in the Hayden System will be useful in your preparation.

The Sample SAT's are two-hour exams with complete Mathematical and Verbal sections timed and formatted according to the latest SAT's and scored on the SAT scale. After reviewing your weak areas, take these sample tests for practice and see how your performance measures up.

2. Vocabulary

The Vocabulary Module provides a thorough review of antonyms, analogies and sentence completions. The module contains an on-screen dictionary with 1000 words.

3. Reading Comprehension

The Reading Comprehension Module offers strategies and practice in reading passages and responding to questions about the material just read. Working with passages drawn from the most up-to-date sources in a variety of fields will help you improve your ability to determine main ideas, to recognize logical implications and to extract factual information from what you read.

4. Algebra

The Algebra Module provides instruction and practice in solving the entire range of algebra problems found on the SAT: linear and literal equations, systems of linear equations, quadratic and radical equations, and reducing algebraic fractions.

5. Quantitative Comparisons and Word Problems

The Quantitative Comparisons and Word Problems Module covers all the remaining subjects in the Mathematical section of the SAT. Quantitative comparison problems — problems that emphasize reasoning skills used to determine which of two quantities is larger — improve skills in algebra and geometry as well as in other areas of mathematics. The other problems in this module include fractions and decimals, percentages, ratios and proportions, sequences, graphs, and word problems including motion, mixture, and business and work problems.

Each subject within the modules described above includes the three options previously discussed under "Menus": Definitions, Analysis and Strategies, Examples With Tutormode and Examples Without Tutormode.

NOTE: This Geometry Module conbines Definitions, Analysis and Strategies and Examples With Tutormode.

3. AN ANALYSIS OF THE SCHOLASTIC APTITUDE TEST

Overview of the SAT

The SAT is an exam which attempts to measure your potential to do college level work. Both Verbal and Mathematical skills are tested during a three-hour exam which is usually administered between 9:00 A.M. and 12:00 Noon on specified Saturdays.

The exam is normally divided into six sections at the end of which you will be told to stop work. You will not be permitted to return to an earlier section after the time limit has elapsed.

The Mathematical sections measure problem-solving abilities involving arithmetic, algebra and geometry. The Verbal sections measure understanding of word relationships as well as vocabulary and reading passages of varying difficulty. Both sections require an ability to reason logically, understand basic ideas and grasp essential details.

SAT Format

The usual three-hour test period is divided into six 30-minute sections: some Verbal, some Mathematical and the TSWE (Test of Standard Written English) section which is used by college placement officers. The TSWE is not computed in either the Verbal or Mathematical score. In the Hayden SAT Score Improvement System you will not be concerned with the TSWE.

Each test book is divided into six 30-minute sections:

1. **Verbal Sections:**
   two 30-minute sections with a total of 85 questions.
2. **Mathematical Sections:**
   two 30-minute sections with a total of 60 questions.

3. **Test of Standard Written English:**
   one 30-minute section with 50 questions.
4. **Experimental Section:**
   one 30-minute section (Either Verbal, Mathematical or TSWE).

Only the Verbal and Mathematical sections count towards your SAT score, though you will not be told which section is experimental. The TSWE and Experimental sections are used for college placement and test control and are not included in your SAT score.

Recording Answers

Each section of the SAT is preceded by a separate set of directions. Read the directions carefully to make sure you understand what you are being asked to do.

Here is an example of one such set of directions.

> **Directions:** Each question below consists of a related pair of words or phrases, followed by five lettered pairs of words or phrases. Select the lettered pair that best expresses a relationship similar to that expressed in the original pair.
>
> **Example:**
>
> Prong:Fork (a) headlight:lamp
> (b) cylinder:motor
> (c) knife:edge
> (d) illustration:book
> (e) fence:house
>
> (a) (b) (c) (d) (e)
>
> (Darken the letter of your choice. In this example, (b) cylinder:motor is the correct choice.)

When recording your choices, avoid any stray marks on the answer grid. Such marks could invalidate an otherwise correct choice.

SAT Scoring

Your answer sheet is evaluated by a scanning machine and the spaces blackened for each question are recorded on a computer tape.

The computer compares your answers with the correct responses to calculate your raw score. Each correct answer is worth one point. Questions omitted do not count toward your score. For incorrect answers, fractions of points are deducted: 1/4 point for questions with five choices and 1/3 point for questions with four choices. Therefore you should avoid random guessing. However, when you are able to reduce your choices to two, most educators advise you to guess.

The following conversion chart shows how raw scores are then converted into SAT scaled scores ranging from 200 to 800.

Conversion Chart

Raw Scores to College Board Scores

Raw Score	Verbal Section	Raw Score	Verbal Section
85	800	40	470
80	760	35	430
75	720	30	400
70	680	25	360
65	640	20	330
60	600	15	290
55	570	10	260
50	540	5	220
45	500	0	200

Raw Score	Mathematical Section	Raw Score	Mathematical Section
60	800	25	480
55	750	20	440
50	700	15	390
45	650	10	350
40	620	5	300
35	570	0	250
30	520		

Your performance is compared with the performance of other students in the country. Approximately two-thirds of the students who take the SAT score between 400 and 600 on each of the tests.

The score required for admittance to a particular college or university is not fixed. No minimum score represents automatic admission.

Best Preparation

If you practice the skills necessary to do well on the SAT, study the examination format, and learn to work within the prescribed time limit for the exam, you can achieve higher scores and greater confidence in test-taking.

The Hayden SAT Score Improvement System is designed to help prepare you to take the SAT in an intelligent manner. It will train you to work within the time allotted for each section of the exam so that you can enter the exam room with a sense of ease, confidence and preparedness.

APPENDIX

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